



Mind-bending Spiral Galaxy Challenges Scientific Beliefs

Description

A recent astronomical breakthrough by an international team of astronomers has unveiled a colossal, spiral galaxy like no other observed in the cosmos.

Led by researchers from Christ University in Bangalore, this team made a perplexing discovery. A gigantic, well-organized galaxy located nearly a billion light-years away appears to challenge all previous understandings of galactic behavior.

At its nucleus sits a supermassive black hole. What's astounding is that this black hole emits massive energy jets spanning six million light-years. Normally, such jets are associated with elliptical galaxies, not spirals like this one.

Named 2MASX J23453268+0449256, this galaxy isn't just slightly larger than our Milky Way – it is three times its size. Despite its immense structure, with sweeping spiral arms and a luminous central bar, it is emitting some of the largest radio jets ever observed in a spiral galaxy.

Typically, powerful radio jets disrupt the delicate structures of spiral galaxies, affecting star formation and overall galactic growth. However, this galaxy challenges that norm by remaining peaceful and stable while expelling energy on an immense scale.

Lead researcher Professor Joydeep Bagchi of Christ University described this discovery as groundbreaking, prompting a reevaluation of galactic evolution and the role of supermassive black holes within them.

The findings raise thought-provoking questions about the future of galaxies like our own Milky Way and the potential consequences of high-energy phenomena on life forms within. The study, published in the Monthly Notices of the Royal Astronomical Society, offers significant insights into the enigmatic forces that govern our universe.

Vocabulary List:

1. **Colossal** /kə'lɒ:səl/ (adjective): Extremely large or great in size extent or degree.
2. **Perplexing** /pər'pleksɪŋ/ (adjective): Causing confusion or puzzlement.
3. **Astounding** /ə'staʊndɪŋ/ (adjective): Causing a feeling of great surprise or wonder.
4. **Phenomena** /fə'nɒmɪnə/ (noun): Observable events or occurrences especially those that are remarkable or extraordinary.
5. **Reevaluation** /,ri:ˌevælju'eɪʃən/ (noun): The act of assessing something again often to form a new judgment.
6. **Implications** /ˌɪmplɪ'keɪʃənz/ (noun): Possible consequences or effects of an action or a decision.



Comprehension Questions

Multiple Choice

1. What is the name of the massive, spiral galaxy recently discovered by an international team of astronomers?
Option: 2MASX J23453268?0449256
Option: Milky Way 2.0
Option: Colossal Spiral Prime
Option: Supermassive Giantia
2. Where is the lead research institution located for the discovery of the colossal spiral galaxy?
Option: Christ University in Sydney
Option: Harvard University in Cambridge
Option: Christ University in Bangalore
Option: Stanford University in California
3. How far away is the colossal spiral galaxy located from Earth?
Option: Approximately 500 million light-years
Option: Nearly a billion light-years
Option: 50 million light-years
Option: Exactly 1 billion light-years
4. What type of galaxies are normally associated with emitting massive energy jets such as the one observed in the colossal spiral galaxy?
Option: Spiral galaxies
Option: Elliptical galaxies
Option: Irregular galaxies
Option: Dwarf galaxies
5. What is located at the nucleus of the colossal spiral galaxy?
Option: A supergiant star
Option: A neutron star
Option: A supermassive black hole
Option: A quasar
6. Which publication featured the study on the colossal spiral galaxy conducted by the international team of



astronomers?

- Option: Astronomy Today
- Option: Science Magazine
- Option: Monthly Notices of the Royal Astronomical Society
- Option: National Geographic

True-False

7. The colossal spiral galaxy discovered challenges previous understandings of galactic behavior.
8. Supermassive black holes are typically found at the center of elliptical galaxies.
9. The colossal spiral galaxy is emitting radio jets that disrupt its own structure.
10. Professor Joydeep Bagchi led the research team that discovered the colossal spiral galaxy.
11. The study on the colossal spiral galaxy raises questions about the potential consequences of high-energy phenomena on life forms within galaxies.
12. The discovery of the colossal spiral galaxy was made by a team of researchers from Harvard University.

Gap-Fill

13. The colossal spiral galaxy is approximately _____ times larger than the Milky Way.
14. The powerful energy jets emitted by the supermassive black hole span _____ million light-years.
15. Professor Joydeep Bagchi is affiliated with _____ University.
16. The discovery of the colossal spiral galaxy challenges the norm by remaining peaceful and _____ while expelling energy on a massive scale.
17. The colossal spiral galaxy was found to be emitting some of the largest _____ jets ever observed in a spiral galaxy.
18. The study on the colossal spiral galaxy was published in the _____ of the Royal



Astronomical Society.

Answer

Multiple Choice: 1. 2MASX J23453268?0449256 2. Christ University in Bangalore 3. Nearly a billion light-years 4. Elliptical galaxies 5. A supermassive black hole 6. Monthly Notices of the Royal Astronomical Society

True-False: 7. True 8. True 9. False 10. False 11. True 12. False

Gap-Fill: 13. 3 14. 6 15. Christ 16. stable 17. radio 18. Monthly Notices

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. Which word best describes a gigantic and massive structure or object?
Option: Evolutionary
Option: Colossal
Option: Perseverance
Option: Promotional
2. Which term refers to the ability to recover quickly from setbacks or difficulties?
Option: Resilience
Option: Protruding
Option: Hazard
Option: Debris
3. What does it mean to make a problem bad situation or negative feeling worse?
Option: Sustainability
Option: Implications
Option: Incomplete
Option: Exacerbate
4. Which term means to leave or put something especially money in a bank account?
Option: Influence
Option: Density
Option: Deposit
Option: Reevaluation
5. Which word best describes something astonishing or surprising?
Option: Intervention



- Option: Astounding
- Option: Tumultuous
- Option: Clutter

6. Which term refers to the action of building or constructing something often a physical structure?

- Option: Expectations
- Option: Erected
- Option: Gratitude
- Option: Scale

7. What is the plural form of the word "phenomenon" often used to describe remarkable events or occurrences?

- Option: Inspiration
- Option: Phenomena
- Option: Distinct
- Option: Perplexing

8. Which term describes the way in which two or more things affect each other when working together?

- Option: Colossal
- Option: Sustainability
- Option: Exacerbate
- Option: Interplay

9. What concept focuses on the ability to maintain or sustain a process or situation over time?

- Option: Sustainability
- Option: Resilience
- Option: Providence
- Option: Implications

10. Which term refers to the persistence in doing something despite difficulty or delay in achieving success?

- Option: Perseverance
- Option: Expectations
- Option: Hazard
- Option: Debris

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. _____ changes take place over a long period involving a series of stages.

12. Expressing _____ towards others can enhance social relationships.



13. Setting realistic _____ can help in achieving personal and professional goals.
14. Ignoring safety protocols can lead to increased risk of _____ in the workplace.
15. Removing unnecessary items can help in reducing _____ in your living space.
16. High _____ of population in urban areas can lead to various social challenges.
17. Understanding the _____ of a decision is crucial before implementation.
18. The company launched a new _____ campaign to attract more customers.
19. The country faced a _____ period of political unrest and uncertainty.
20. Many people believe in a higher power guiding events known as _____.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. Each individual has a personality that sets them apart from others.
22. The timely by the authorities prevented a major disaster.
23. Periodic of business strategies is essential for adapting to changing market conditions.
24. The story of her success served as an for many young entrepreneurs.
25. Setting goals can lead to disappointment and demotivation.
26. After the storm the beach was filled with washed ashore.
27. The company expanded its operations on a global reaching new markets.
28. The puzzle presented a challenge leaving many puzzled.
29. Her hard work and dedication earned her a well-deserved at work.
30. Construction sites are filled with potential that need to be managed.

Answer

Multiple Choice: 1. Colossal 2. Resilience 3. Exacerbate 4. Deposit 5. Astounding 6. Erected 7. Phenomena
8. Interplay



9. Sustainability 10. Perseverance

Gap-Fill: 11. Evolutionary 12. Gratitude 13. Expectations 14. Hazard 15. Clutter 16. Density 17. Implications
18. Promotional 19. Tumultuous 20. Providence

Matching sentence: 1. Distinct 2. Intervention 3. Reevaluation 4. Inspiration 5. Unrealistic 6. Debris 7. Scale
8. Perplexing 9. Promotion 10. Hazards

CATEGORY

1. Sci/Tech - LEVEL6

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